

## ABSTRACT OF THE DISCLOSURE

The present invention pertains to a process for the catalytic reduction of heavy oils, kerogens, plastics, bio-masses, sludges and organic wastes to light hydrocarbon liquids, carbon dioxide and amines, all in a single reaction vessel. Disclosed are multiple  
5 examples of an improved dendritic process for the reaction of variegate raw materials, and the separation and isolation of the products formed thereby. The invention takes advantage of the reduction in the number of profligate process steps, the cycle time for the reactions, and the capacity to separate the products using a dendritic process. The invention thus directly addresses the need in the art for an improved dendritic process,  
10 which is suitable for application in the processing and recycling or disposal of waste from numerous and variable sources, such as, for example, agricultural, industrial and municipal waste products, and including, but not limited to, various wastes that are toxic or potentially hazardous to human or animal health or the environment.